

Computer Networking BTR Bullets for January 2004 through February 2004

o GSFC's Executive Council has selected for award the FY04 IRAD proposal "Preparing Goddard for Large Scale Team Science in the 21st Century: Enabling an All Optical Goddard Network Cyberinfrastructure" submitted by Co-PI's Pat Gary and Jeff Smith (423/585) with GSFC's Information Technology Pathfinder Working Group as Co-I's. The awarded effort plans to establish a "Lambda Network" (in this case using optical wavelength technology and 10Gbps Ethernet per wavelength) from GSFC's Earth science Greenbelt facility in MD to the Scripps Institute of Oceanography (SIO) through the University of California, San Diego (UCSD) facility over the National Lambda Rail, a new national dark optical fiber infrastructure.

o P. Gary provided a summary of GSFC's Lambda Network plans to ARC's Chief Technologist Dr. Peter Friedland during his January 22-23 visit to GSFC to explore ways for GSFC to team with ARC.

o P. Gary arranged a presentation on February 12 at GSFC by Chiaro, Inc's Vice President of Technology Steve Wallach on Chiaro's Enstara IP/MPLS Platform. Such a platform already is in use at UCSD in the NSF-funded OptIPuter Project led by Dr. Larry Smarr, and will be the primary device to which the GSFC Lambda Network will connect at UCSD/SIO. Attendees included reps from UMBC, USC, and GSFC Codes 423/585, 586, 930, 931, 933, and 935.

o Bill Fink, Paul Lang (933/ADnet), Aruna Muppalla (933/ADnet), and Wei-Li Liu (933/ADnet) were acknowledged for their contributions in the accepted paper "SAN and Data Transport Technology Evaluation at the NASA Goddard Space Flight Center (GSFC)" submitted by Hoot Thompson (585/Patuxent Technology Partners) for the 12th NASA Goddard/21st IEEE Conference on Mass Storage Systems and Technologies to be held April 13-16, in College Park.

o B. Fink and P. Lang supported NCCS' interests to assess new Gigabit Ethernet (GE) switches from a number of vendors as candidates in their LAN by completing tests which evaluated both full GE line rate for all ports and non-blocking capability under aggregated load in configurations involving approximately 64 ports. The tests were conducted on an Extreme Network BlackDiamond 6808, a Force10 E300, a Force10 E600, and a stacked set of Cisco 3750's, all of which tested favorably.

o P. Lang arranged for temporary loan of a Force10 E300 10-GE switch similar to the one already acquired by the High End Computer Network Team. This loan will enable full capability checkout of the switches, including planned test deployments both between GSFC and the MAX at UMCP and between Beowulf clusters in different buildings at GSFC. Favorably completed initial 10 GE tests by transferring full line rate data from 20 individual GE ports on one switch across two 10-GE connections between the switches to 20 individual GE ports on the second switch.

o The Federal Computer Week's February 23 article "2005: The Year of the DRAGON" (<http://www.fcw.com/fcw/articles/2004/0223/tec-nasa-02-23-04.asp>) briefly summarizes some of the key objectives of the NSF-funded Dynamic Resource Allocation via GMPLS Optical Networks (DRAGON) project which, based on P. Gary's GSFC Letter of Support, will be connecting GSFC to an experimental optical network to test the optical network's ability to handle advanced research applications.